

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A gas burner, comprising:
a metal burner membrane configured such that, during use, gas penetrates before being ignited and resulting in visible flames having a lower flame front where the gas ignites outside said membrane, wherein said membrane comprises a fabric comprising stainless steel fibers,
wherein said membrane of the gas burner comprises a base section having a smallest radius of curvature being R_{base} , a closing section, and a transition region connecting said base section to said closing section,
wherein said membrane is uninterrupted, and
wherein said transition region has a smallest radius of curvature $r_{\text{transition}}$ being larger than or equal to $0.02 \times R_{\text{base}}$ and being smaller than or equal to $0.7 \times R_{\text{base}}$.
2. (Canceled)
3. (Previously Presented) A gas burner as in claim 1, wherein said stainless steel fibers are arranged essentially parallel into bundles.
4. (Original) A gas burner as in claim 3, wherein said bundles are knitted or braided or woven.
5. (Previously Presented) A gas burner as in claim 1, wherein said membrane further comprises a foraminated plate, a foraminated sheet, or a deep drawn or stamped wire mesh for supporting said fabric.
6. – 9. (Canceled)
10. (Previously Presented) A gas burner as in claim 5, wherein said base section has a shape of a conical surface of a frustum of a cone.

11. (Previously Presented) A gas burner as in claim 5, wherein said base section has a cylindrical shape.

12. (Previously Presented) A gas burner as in claim 10, wherein said transition region is part of a torus surface delimited by two planes perpendicular to an axis of symmetry of said torus.

13. (Previously Presented) A gas burner as in claim 5, wherein said base section has a polygonal cross section, the corners of said cross section being rounded.

14. (Previously Presented) A gas burner as in claim 5, wherein said base section has a rectangular cross section, the corners of said cross section being rounded.

15. (Previously Presented) A gas burner as in claim 5, wherein said base section is a truncated pyramid, said pyramid having rounded edges.

16. (Previously Presented) A gas burner as in claim 12, wherein said closing section is a small inverted sphere cap such that a depression forms at a center of said burner membrane.

17. (Previously Presented) A gas burner as in claim 11, wherein said transition region is part of a torus surface delimited by two planes perpendicular to an axis of symmetry of said torus.

18. (Previously Presented) A gas burner as in claim 11, wherein said transition region is in a form of a circular ridge.

19. (Canceled)

20. (Previously Presented) A gas burner as in claim 3, wherein said membrane further comprises a foraminated plate, a foraminated sheet, or a deep drawn or stamped wire mesh for supporting said fabric.

21. (Previously Presented) A gas burner as in claim 4, wherein said membrane further comprises a foraminated plate, a foraminated sheet, or a deep drawn or stamped wire mesh for supporting said fabric.

22. (Previously Presented) A gas burner as in claim 1, wherein the smallest radius of curvature R_{base} of the base section and the smallest radius of curvature $r_{\text{transition}}$ of the transition region follow the following relation: $0.02 \times R_{\text{base}} \leq r_{\text{transition}} \leq 0.35 \times R_{\text{base}}$.

23. (Canceled)

24. (Previously Presented) A gas burner as in claim 1, wherein the smallest radius of curvature R_{base} of the base section and the smallest radius of curvature $r_{\text{transition}}$ of the transition region follow the following relation: $0.09 \times R_{\text{base}} \leq r_{\text{transition}} \leq 0.7 \times R_{\text{base}}$.

25. (Previously Presented) A gas burner as in claim 1, wherein the smallest radius of curvature R_{base} of the base section and the smallest radius of curvature $r_{\text{transition}}$ of the transition region follow the following relation: $0.18 \times R_{\text{base}} \leq r_{\text{transition}} \leq 0.35 \times R_{\text{base}}$.

26. (New) A gas burner as in claim 1, wherein the smallest radius of curvature R_{base} of the base section and the smallest radius of curvature $r_{\text{transition}}$ of the transition region are determined from a side of the membrane which faces the flames.